TROPICAL RAINFALL MEASURING MISSION

August 17, 1998 - August 23, 1998
DOY 229-235

TRMM MISSION OPERATIONS

- TRMM is flying in the -X Forward direction as of 98-221, at 21:10:54 z.
- The next Yaw maneuver is scheduled for August 28 (240).
- The next Delta-V maneuver is scheduled for August 27 (239) using the ISP thrusters.
- Deep Space Calibration (inertial hold) maneuver is scheduled for September 2 (245).
- CERES internal calibration and solar calibration is August 26 (238).
- CERES Alongtrack operations are scheduled for September 5 (248).
- The Beta angle range for the week of August 24 - August 30 (236 - 242) is -15.2° to +9.8°.

TRMM SUBSYSTEM OPERATIONS

Attitude Control System

Delta-V maneuver #39 was successfully conducted on 98-233 at 17:43:20z and 18:29:45z, for durations of 40 and 29 seconds, respectively, using the ISP thrusters. The -Pitch thruster (#6) off-modulation was 37.5% and 36.3%, respectively (62.5% and 63.7% on time). The remaining fuel is 815.975 kg and the final apogee and perigee height is 347.87 km x 347.39 km.

An inertially fixed (CERES Deep Space Calibration) maneuver is scheduled for 98-245. See TMI section for details.

Flight Data System (FDS)/Command & Data Handling (C&DH)

The Frequency Standard continues to drift in the negative direction. The frequency value remains at x72f. The current drift rate is -3.63 μs/hr.

The UTCF was adjusted by -874.0 μs on 98-235 at 23:05:14z. The new UTCF is 31535997.879569 sec. The current drift value is 0 μs.

Q-Channel Restarts occurred on 98-229 at 22:36z, 98-230 at 11:01z, 98-231 at 14:37z and 17:59z, and 98-232 at 16:44z.

EDAC multi-bit errors were received on 98-232 at 00:03:54z and 01:38:48z, and on 98-233 at 21:16:50.

FOT dwell monitoring revealed that a Flywheel conditioned occurred on 98-229.

Reaction Control Subsystem (RCS)

The RCS subsystem performed nominally during this period. See the ACS section for Delta-V information.

Power Subsystem

Battery-2 Cell-1 is still reaching maximum 1.51 - 1.52 V. The power subsystem is being closely monitored to decide if the C/D ratio value should be adjusted to match the current energy profile of the batteries so that the battery state of charge reaches 100% on a consistent basis.

Electrical Subsystem

The Electrical subsystem operated nominally during this period.

Thermal Subsystem

The Thermal subsystem operated nominally during this period.

Deployables Subsystem

The Deployables subsystem performed nominally during this period.

A code review for the ACS software changes made for Solar Array limiting is scheduled this week with FSW .

RF/Communications Subsystem

The RF/Communications subsystem has performed nominally during this time.

SPACECRAFT INSTRUMENTS

CERES

Beginning on 98-230 the DAA+15V voltage converter tripped YH limits 15.75V (Anomaly #69) and reached a maximum, for the week, of 16.08 volts on 98-233. The LaRC personnel were notified immediately and are investigating further into the cause. These voltage peaks seem to primarily occur during Biaxial and Along-track operations, although some anomalous increases have been noticed on Crosstrack days. The voltage maximums occur at sunset during part of the GMT day (from about 6:00z to 15:00z) then gradually returns to normal by the end of the GMT day. The peaks have steadily increased since 98-212. Citing that the original limits were set too low, LaRC personnel have increased the limits for the DAA+15V to: 13.0 RL, 14.0 YL, 16.0 YH, and 17.0 RH.

A microprocessor load was received by the MOC from LaRC on 98-229 and tested with the STTF on 98-233. This load will add a new elevation scan mode to be used in the upcoming Deep Space Calibration maneuver on 98-245.

CERES operated in unrestricted Biaxial scan mode on 98-230. CERES operated in restricted Along-track operations on 98-233. CERES was placed in Contamination Safe on 98-233 prior to each of the two Delta-V burns.

CERES special commanding to Crosstrack mode on Biaxial and Along-track operation days for the ARM site occurred on 98-230 at 17:45z through 19:45z, and on 98-233 at 15:50z through 17:41z.

Internal Calibrations		**Solar Calibrations**	
Date	Time	Date	Time
N/A	N/A	N/A	N/A

LIS

LIS performed nominally during this time period. A command request was performed on 98-232 at 20:13z to perform a Watchdog reset, re-adjustment to normal operational thresholds, and a set to 8 Kbps background send mode.

PR

PR performed nominally during this time period.

PR performed an Internal Calibration on 98-231 at 03:00:00z and during Australia Interference regions. After 98-238, PR Internal Calibrations will no longer be scheduled on Wednesdays at 03:00z. NASDA will use data received during Australia Interference zones, when PR is placed in Internal Calibration mode.

TMI

TMI performed nominally during this time period.

A Deep Space calibration maneuver (inertially fixed) is scheduled on 98-245 for one orbit. TMI has an apparent offset in data, when compared with SSM/I. The cold space look will help determine the value of the offset and possibly the cause. Once the offset has been determined, it will be masked from the data.

VIRS

VIRS performed nominally during this time period.

GROUND SYSTEM

The MOC has not received a Level0 file from DDF since 98-232 due to a DNS routing problem. The problem is under investigation at this time. Transfers will be done via tape back-up, if the electronic transfer has not been restored.

EVENT REPORTS

No new Event Reports were written during this time.

Late Acquisition Reports (for TTRs 19639)

No new Late Acquisition Reports were written during this time.

ANOMALIES

#69 CERES DAA+15V High Voltage Indication.

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